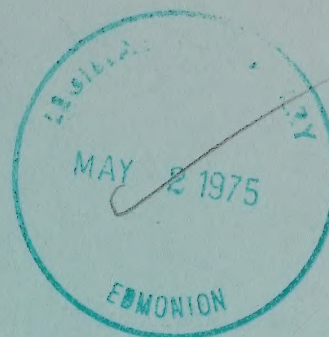


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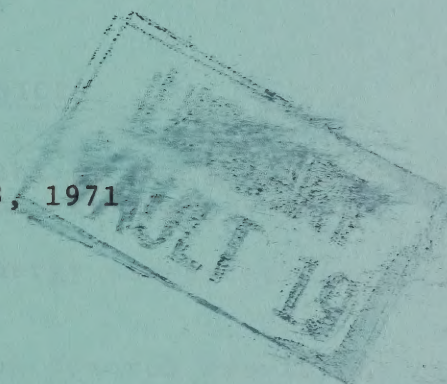
ERCB



Presentation to Cabinet Committee
on Natural Resources

[Briefs]

November 8, 1971



Energy Resources Conservation Board

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Introduction

This document has been assembled in response to the request by letter of October 29, 1971 of the Honourable Hugh M. Horner, Chairman of the Cabinet Committee on Natural Resources and Development. It deals generally with matters relating to the consideration of applications and the issuance of approvals for the construction and operation of plants and other facilities for the recovery or processing of energy resource materials and for the generation of electric energy. Specific consideration is given to those aspects of such applications and approvals which bear upon pollution and environmental control.

Prior to 1970 the Energy Resources Conservation Board (then the Oil and Gas Conservation Board) was concerned primarily with conservation, prevention of waste, safe and efficient practices and the protection of correlative rights with respect to oil, gas and crude bitumen developments and operations. At the 1970 session of the legislature the Board's responsibilities were broadened to include the control of pollution and the impact on the environment from oil, gas and crude bitumen operations.

In 1971 through the passage of The Energy Resources Conservation Act the expanded Energy Resources Conservation Board was established and broad responsibilities and powers relating to all energy resources, including control of pollution and the impact on the environment, were assigned to the Board.

The Hydro and Electric Energy Act was also passed at the

1971 legislature and became effective June 1, 1971. This Act assigns to the Energy Resources Conservation Board specific responsibilities and powers relating to the development and operation of hydro plants, power plants, electric transmission lines and electric distribution systems. Control of pollution resulting from the operation of power plants is included in these responsibilities and powers.

Consistent with the general provisions of The Energy Resources Conservation Act, and as confirmed in the Board's letter of September 7, 1971 to the Honourable the Premier, the Board is preparing a draft of a bill to enact The Coal Conservation Act. This proposed Act would convey to the Board specific responsibilities and powers relating to coal mining and processing analagous to those assigned to it for oil, gas and oil sands in The Oil and Gas Conservation Act.

1. Application Processing and Approval Procedures of the Energy Resources Conservation Board under The Oil and Gas Conservation Act and The Hydro and Electric Energy Act

The Board has developed standard procedures for dealing with applications for approvals. These procedures vary with the complexity of the matter being dealt with but are essentially the same regardless of the Act under which the application is made.

For the most complex matters and particularly those with significant public interest features the Board follows a procedure involving a consideration of the application and interventions of interested parties at a public hearing. The details of the Board's procedure are shown in Figure 1. It is to be noted that consultation occurs with the Department of the Environment and any other interested Departments of Government at two stages during the procedure. First, the Department is informed of the application immediately following its receipt and the Department is asked whether it considers the application sufficiently complete to proceed with public hearing or in what respect it believes the application is deficient. Subsequently an opportunity is provided for the Department to submit its advice to the Board on the merits of the application either through a document to be made public at the hearing or in a confidential manner. The communication with the Department of the Environment or another interested Department will in the future be launched by a letter in the general form shown in Appendix 1. Examples of applications which are dealt with

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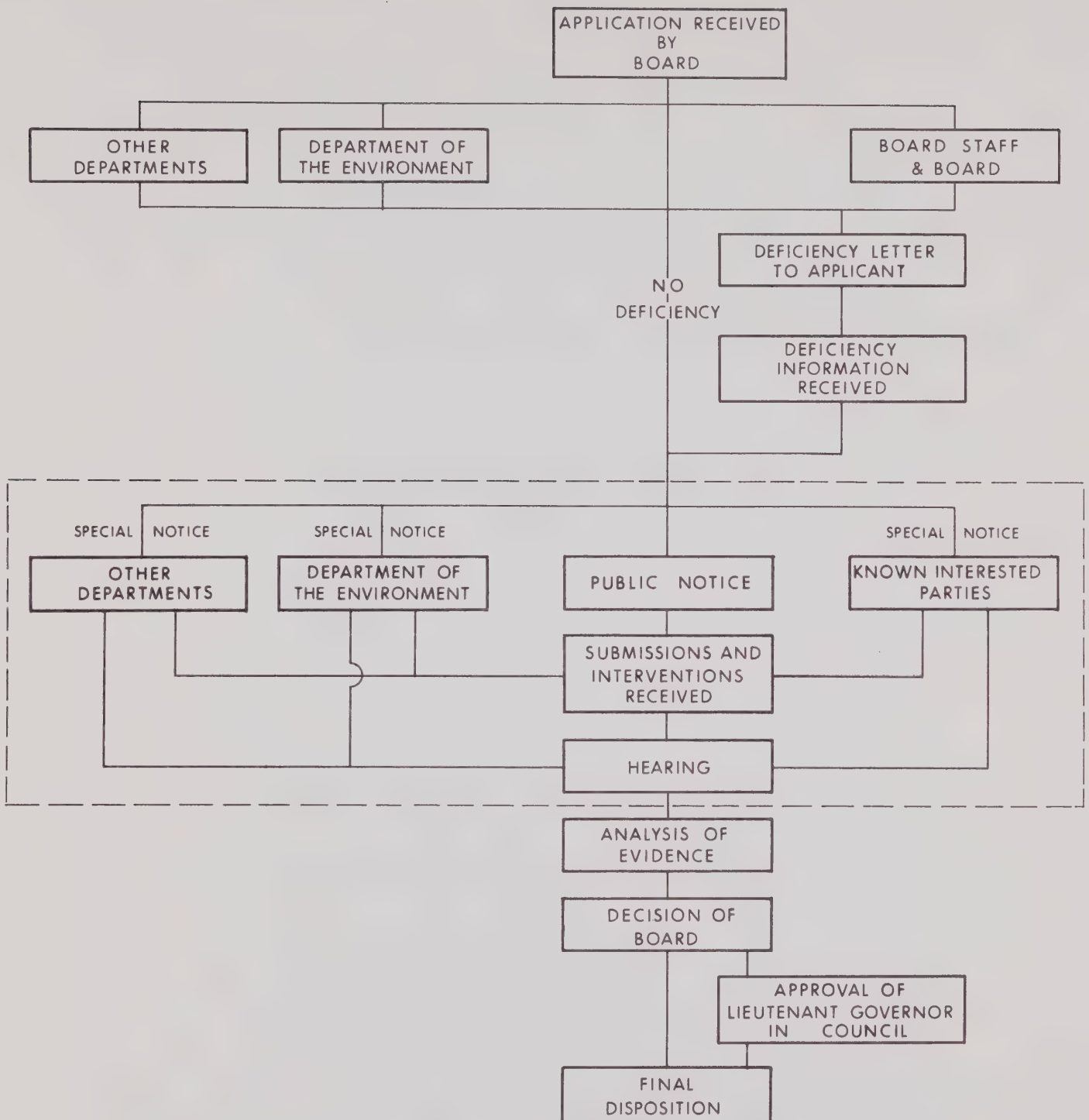


FIGURE 1

PROCEDURE FOR HANDLING MAJOR APPLICATIONS INVOLVING PUBLIC HEARING

through the procedure of Figure 1 are those for approval of major sour gas processing plants or major extensions to existing such plants, small sour gas processing plants near an inhabited area, major power plants or major extensions to existing power plants, oil sands processing plants and major extensions thereto and, in the future, under the proposed Coal Conservation Act, major coal mining operations, coal processing plants and major extensions to them.

For matters of intermediate complexity, where some public interest elements may be present but where public hearing is not in the first instance thought to be warranted, the Board follows a procedure of giving public notice of the matter and providing an opportunity for the filing of objections. Details of the procedure are shown in Figure 2. The communication with the Department of the Environment and other Departments of Government is similar to that previously discussed. It should be noted that in the event the Board receives objections of any significance following publication of notice the Board then follows the public hearing procedure of Figure 1. Matters falling into this category would include small new sour gas processing plants remote from an inhabited area, sweet gas processing plants near an inhabited area, or minor modifications or extensions of existing such plants, small new power plants or minor modifications to existing power plants, electric transmission lines and minor alterations to existing oil sands processing plants.

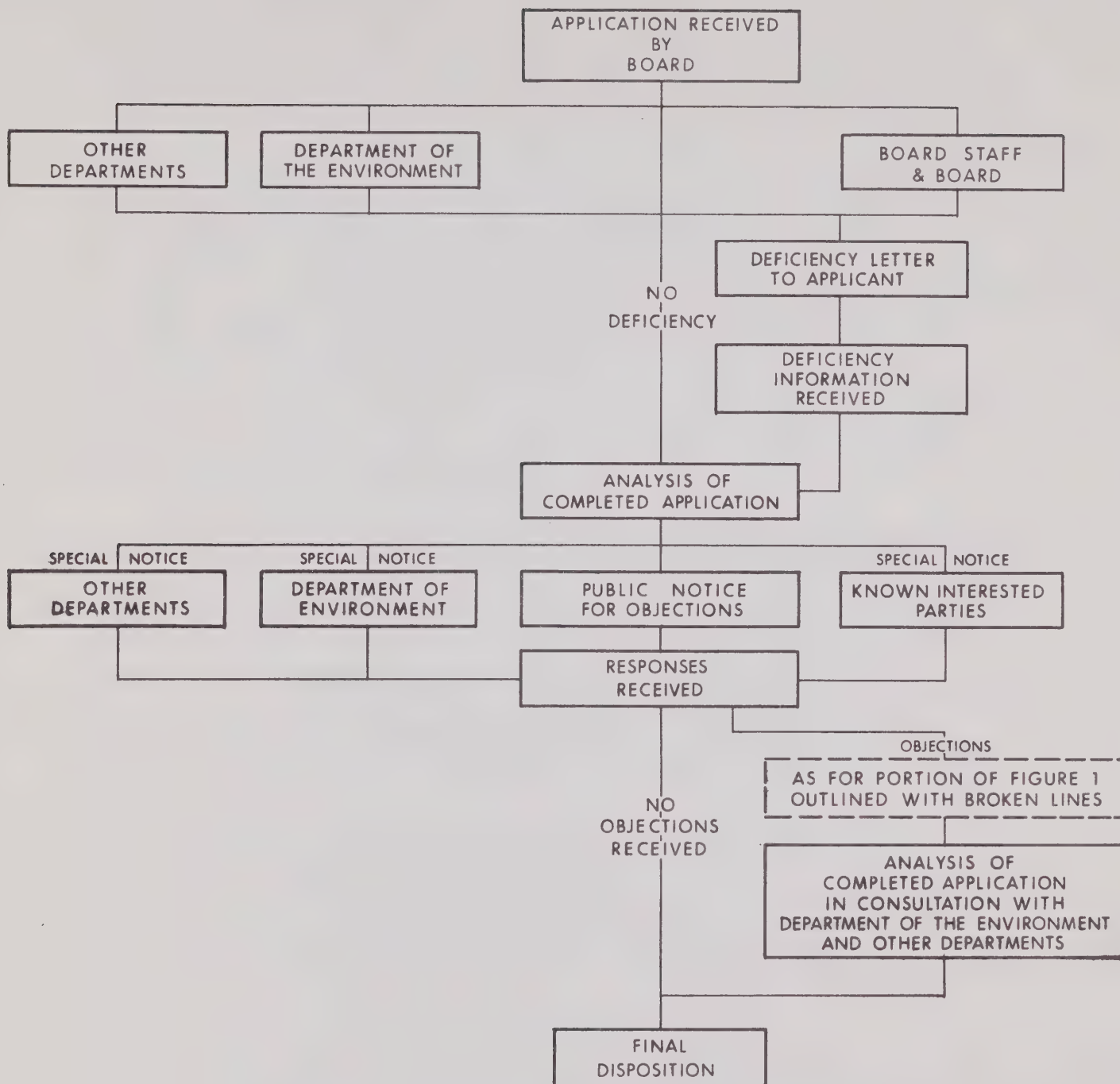


FIGURE 2

PROCEDURE FOR HANDLING SIGNIFICANT APPLICATIONS
INVOLVING PUBLIC NOTICE (NO HEARING EXPECTED)

The third category of matters covers those which are generally routine and for which the Board's decision is given following the appraisal of its staff and, where appropriate, consultation with the Department of the Environment or other Government Departments. Details of the procedure are shown in Figure 3. Illustrative of the kind of matters dealt with in this manner are applications for minor modifications to previously approved gas processing plants, new small sweet gas processing plants remote from an inhabited area and minor modifications to power plants.

Where the Board, after considering an application as described above, is satisfied that the project should proceed it issues a single approval containing appropriate conditions and covering all matters under the Board's jurisdiction of concern to the Board and interested Government Departments. (There are some present minor exceptions to this, e.g. with respect to matters pertaining to disposal of wastes to a surface body of water.) Samples of such approvals for a sour gas processing plant and a power plant are given in Appendix 2.

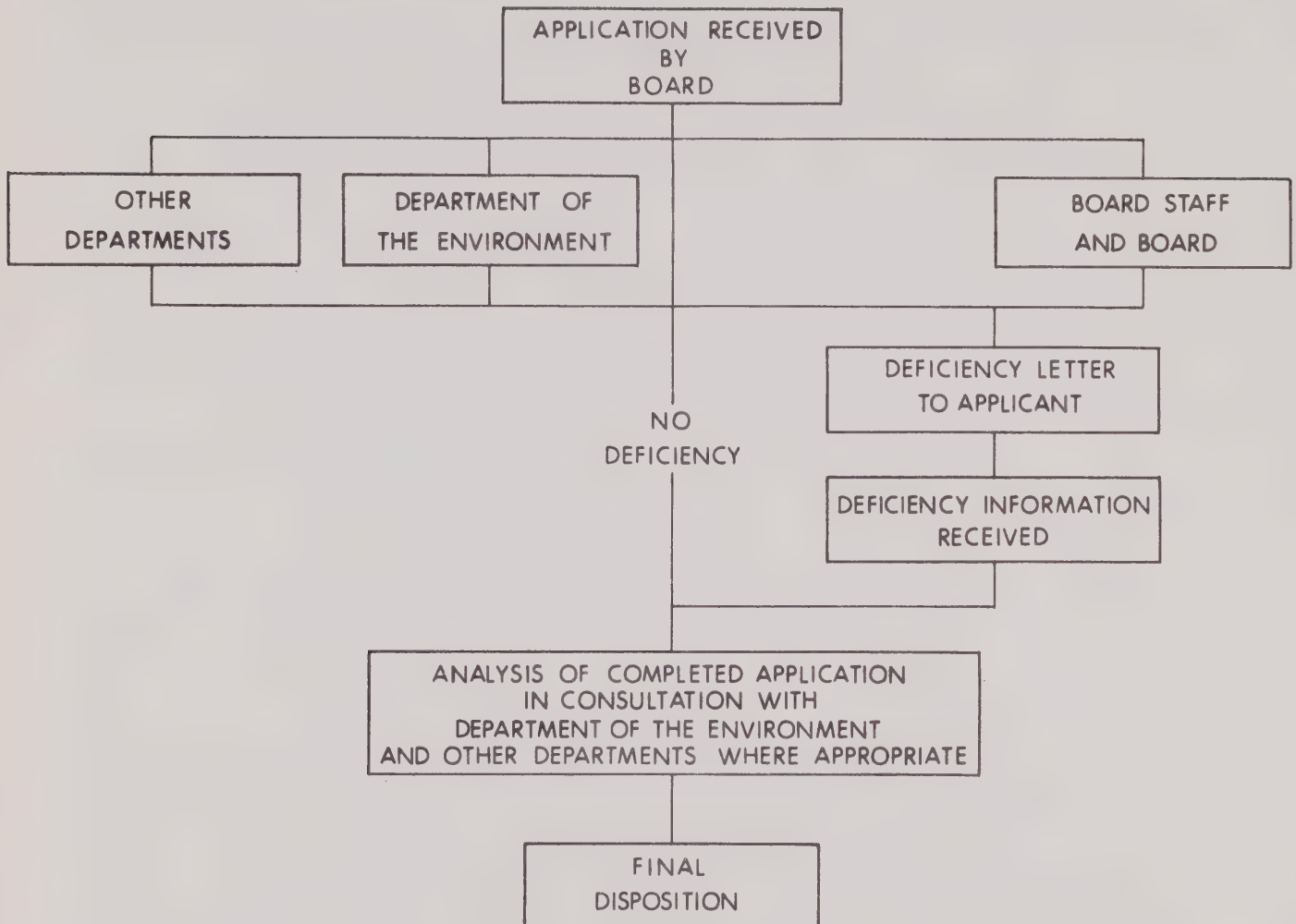


FIGURE 3

PROCEDURE FOR HANDLING ROUTINE APPLICATIONS

2. Review of Areas of Duplicated Responsibility and/or Conflict
Between the Energy Resources Conservation Board and the
Department of the Environment

The Acts Administered by the Energy Resources Conservation Board

Highlights of the pollution control provisions of the three present Acts and the fourth proposed Act administered by the Energy Resources Conservation Board are given in Appendix 3. A listing of the matters on which detailed regulations have been developed under The Oil and Gas Conservation Act and an Interim Directive issued under The Hydro and Electric Energy Act are also included in Appendix 3.

Since April 1970 when the Board through amendments to The Oil and Gas Conservation Act was assigned specific pollution control responsibilities, the Board, in consultation with the Departments of Government also having related responsibilities, has developed a series of so-called "Roles Documents". These described and defined the respective agreed-upon roles of the Board and the following departments or divisions (or former departments or divisions)

- (1) Department of Lands and Forests
- (2) Department of Health
- (3) Water Resources Division, Department of Agriculture
- (4) Department of Mines and Minerals

relating to pollution control matters. Copies of the Roles Documents appear in Appendix 4. Many areas of confusion and certain gaps in coverage were disclosed and resolved during

the development of these documents. The documents proved helpful in avoiding confusion, overlap and conflict among the concerned Departments and the Board in 1970 and the early part of 1971. The realignment of certain departmental responsibilities and the creation of the Department of the Environment in the spring of 1971 has resulted in new problems. The Roles Documents now require review.

The Acts Administered by the Department of the Environment and Others

Problems of duplication, confusion and conflict in the development and administration of pollution control regulations, the issuance of approvals for and the inspection of operations covered by The Oil and Gas Conservation Act and The Hydro and Electric Energy Act and the proposed Coal Conservation Act arise because of overlapping legislation particularly in The Clean Air Act and The Clean Water Act and to a lesser extent in The Water Resources Act, The Department of the Environment Act and The Environment Conservation Act. It is presumed that the essential provisions of these Acts will be reviewed by the Department of the Environment.

Specific Areas of Duplicated Responsibility

The areas of duplicated responsibility and/or conflict relate only to pollution and environmental matters affected by the exploration for, processing, development and transportation of energy resources and energy. There is no conflict

with respect to other industrial developments or municipal developments. With respect to each of The Oil and Gas Conservation Act, The Hydro and Electric Energy Act and the proposed Coal Conservation Act the principal areas of concern are

- (1) The requirement for applications both to the Board and the Department of the Environment.
- (2) The apparent requirement for two approvals covering environmental impact.
- (3) The contemplated double or multiple consultation with an applicant related to (1) and (2).
- (4) The provision in both the Acts administered by the Department of the Environment and those administered by the Board for the submission of reports, and for on-site inspections.

There are no conflicts with respect to the prescribing of standards of environmental quality. The Acts administered by the Board contemplate, and the Board's understanding is, that all environmental standards will be established by the Department of the Environment and other Departments of Government.

This whole question of duplication, confusion and conflict was dealt with in a letter of October 18, 1971 from the Chairman of the Energy Resources Conservation Board to the Minister of the Environment. The letter is quoted in full in the following.

"Allocation of Broad Responsibilities
Relating to the Management by the
Government of the Impact of Energy
Resource (Oil, Oil Sands, Gas, Coal,
Hydro, Electric Energy) Development
on the Environment

Following our discussion of certain aspects of the above mentioned topic on October 13, 1971, you suggested that there should be further discussion with the Honourable the Premier and the Honourable Mr. Dickie and an early clarification of the matter. In preparation for this discussion I thought it would be useful if I were to expand upon some of the views expressed in my letter of September 7, 1971, to the Premier and my letter of September 28, 1971, to you.

Since the assignment to the Board of responsibilities relating to the control of pollution arising from the oil, gas and oil sands industry by legislation in the spring of 1970, the acceptance by the previous administration of the so-called Joonson-Govier report in the fall of 1970, and the passage of The Energy Resources Conservation Act and The Hydro and Electric Energy Act in the spring of 1971, my colleagues and I have assumed the following broad allocation of environmental responsibilities pertaining to the development of all energy resources (i.e. Oil, gas, oil sands, coal, hydro and electric energy).

Department of the Environment

(and formerly the Department of Health and certain other departments)

1. Establishment of standards relating to quality of the environment in consultation with other departments as appropriate - maximum permissible concentration of pollutants, land reclamation standards, etc.
2. Establishment of maximum permissible emissions of pollutants in consultation with the Energy Resources Conservation Board where energy resource conservation is involved and with other departments as appropriate.
3. Conduct of "off-site" monitoring relating to environment quality and review of reports of industry off-site monitoring; evaluation of actual environmental impact.
4. Conduct of research related to 1, 2, 3.

Energy Resources Conservation Board

1. Under broad policy established in The Energy Resources Conservation Act, The Oil and Gas Conservation Act, The Hydro and Electric Energy Act, and the proposed new Coal Conservation Act, devising and administration of regulations consistent with Provincial standards established by the Department of the Environment.
2. Under broad policy established in The Energy Resources Conservation Act, The Oil and Gas Conservation Act, The Hydro and Electric Energy Act, and the proposed new Coal Conservation Act, review of applications relating to gas processing plants, oil sands plants, power plants, coal mines, coal processing plants, etc. and, with the advice of the Department of the Environment and other departments as appropriate and the approval of the Lieutenant Governor in Council as required, issuance of approvals, permits, etc. subject to conditions consistent with the Provincial standards.
3. Surveillance by "on-site" field inspection, and report analysis to ensure compliance with Board regulations and conditions of Board approvals.
4. Taking of corrective action as appropriate in the event of non-compliance.

I believe this broad allocation is the practical one and would urge that it be confirmed with respect to all energy resources and that any ambiguities or conflicts in the present legislation or regulations be removed at the next session of the Legislature. The specific advantages of this allocation of responsibilities, at least as I see it, are

1. The agency which in any event must consider a host of resource management matters concerning energy resources (reserves, productivity, safety, conservation, requirements, etc.) also deals with the intimately related environmental problems
 - industry deals primarily with one Government body in energy resource development matters avoiding conflict, confusion, time delays, multiple applications, and multiple meetings and hearings.
 - responsibility for all closely related aspects of energy resource development is placed on one body which can therefore be held accountable to the Government and the public for the proper discharge of responsibilities.

- many problems of safety and conservation are inseparable from the environmental problems, e.g. sulphur conservation, gas conservation, salt water disposal.
- field and office surveillance of environmental matters may be integrated with that relating to safety, conservation, production control, etc. resulting in maximum efficiency and economy of administration.
- a single approval document may be issued containing all development and operating conditions.

2. The type and qualifications of staff personnel needed for the establishment of proper standards and for the final evaluation of the "off-site" environmental impact are different than are needed for the devising, administration and surveillance of regulations, approvals and conditions related to the ways and means of conducting energy resource development without improper environmental impact. For the former, background in a variety of the physical and biological sciences is necessary; for the latter, background in the technical and practical problems of drilling, mining, processing and the like is appropriate. It would seem logical that staff of the former type be concentrated in the Department of the Environment and that existing staff (expanded where necessary) of the latter type in the Board be utilized.

3. Notwithstanding the fixing and acceptance of standards the most serious environmental problems related to energy resource development will bring a variety of opinions from industry, the public and Government departments on the ways in which the standards may be met. Such ways and means problems are best resolved by the route of a public hearing conducted by an impartial quasi-judicial body with final decision subject to approval by the Lieutenant Governor in Council. The Board is the appropriate such body

- it is impartial
- it has or will have the appropriately qualified technical staff
- it is experienced in the conduct of public hearings
- it enjoys the confidence of the public and those sectors of the energy resource industry with which it has dealt
- submissions or views from various Government departments are better made or expressed to a Board than another Government department.

4. The cost of the development and administration of pollution control regulations in the oil, gas and oil sands industries is shared equally by Government and the industry; a similar sharing would appear appropriate in the hydro and electric and the coal industries and could be instituted by legislative action, say in 1973.

I believe the main question in your mind relates to the devising and issuance of the approval document(s) authorizing the construction or development and the operation of a gas processing plant, a thermal power plant, an oil sands plant, a coal mine, etc. I grant that an approval relating to the environmental aspects of an operation could be issued by the Department of the Environment and another related to the other aspects of the operation could be issued by the Board. In fact, this was just what was done prior to 1970 with respect to gas processing and oil sands recovery plants. This "two-approval" system did not work well with oil and gas. It led to conflicts, confusion with industry, gaps in coverage and a division of responsibility resulting in divided accountability. It was this experience that led to the 1970 amendment to The Oil and Gas Conservation Act and certain of the recommendations of the Joonson-Govier report. The former division of responsibilities related to power plants between the Alberta Power Commission and the Department of Health also resulted in gaps in coverage and inefficiencies.

I should emphasize that throughout this document I am referring only to environmental impact caused by developments in the energy resource (oil, gas, oil sands, coal and hydro electric) industries. I distinguish these from the others only because these are served in other aspects of development by the Energy Resources Conservation Board.

The Board is now dealing with an application for approval of a power plant addition by Canadian Utilities Limited and will shortly have two further power plant applications to consider. Further, it is proceeding with a draft of a Bill for the enactment in 1972 of a Coal Conservation Act. The allocation of environmental responsibilities will affect all of these matters and early clarification is most important."

Illustrative of the situation which develops with divided responsibility is the very recent one related to an oil spill from a pipe line operated by Peace River Pipe Line Company. This is described in a memorandum from the Board's Edmonton

Area Engineer to its Assistant Manager of Field Operations reproduced in Appendix 5.

Figure 4 summarizes the broad allocation of environmental responsibilities which the Board believes to be logical, practical, efficient and economical.

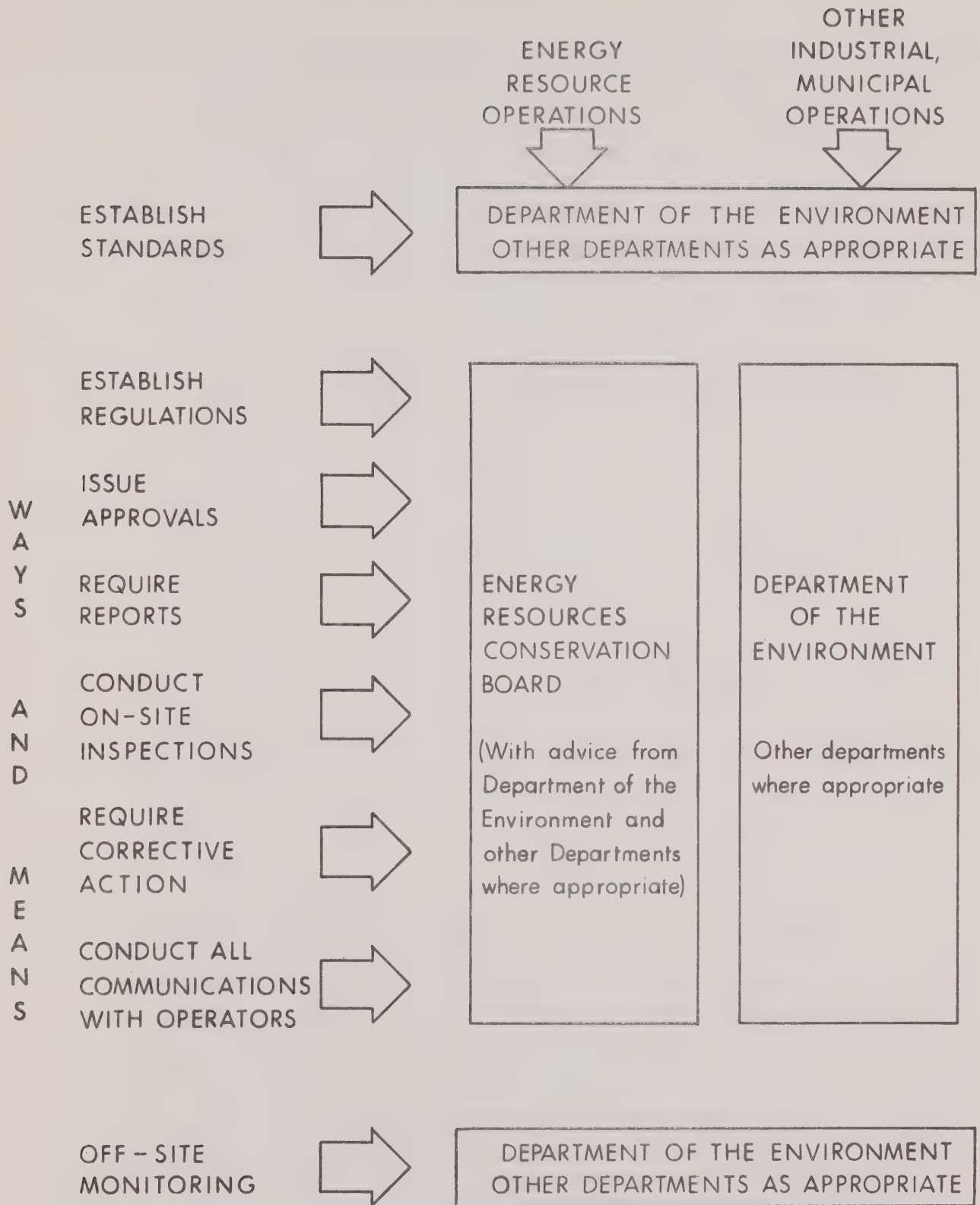


FIGURE 4

BROAD ALLOCATION OF ENVIRONMENTAL RESPONSIBILITIES

3. Suggestions to Remove the Areas of Duplication and/or Conflict

- (1) The Board urges the confirmation of the basic concepts presented and discussed in the Chairman's letter of October 18, 1971, previously quoted, and illustrated in Figure 4. Such confirmation would provide a basis for the review and up-dating of the Roles Documents and the establishment of practical and efficient co-operation among the various Departments of Government and the Board.
- (2) The Board assumes that Section 5 of each of The Clean Air Act and The Clean Water Act was specifically designed to permit compatibility between those Acts and the prior legislation. Pending the possibility of amendments to the legislation the Board suggests that the Lieutenant Governor in Council act under the provisions of Section 5 of The Clean Air Act and Section 5 of The Clean Water Act to designate the Energy Resources Conservation Board or its Chairman as the person who shall exercise the powers of the Director under Section 4 for those plants, structures or things for which approval of the Energy Resources Conservation Board is required under the provisions of The Energy Resources Conservation Act, The Oil and Gas Conservation Act or The Hydro and Electric Energy Act. Upon passage of the proposed Coal Conservation Act a further order would be appropriate relating to matters for which approval of the Energy

Resources Conservation Board would be required under that Act.

- (3) Consideration of related areas of duplication or confusion of responsibility resulting from certain provisions of The Water Resources Act, The Department of the Environment Act and The Environment Conservation Act should be deferred and dealt with as part of item (4).
- (4) The Board believes that an unnecessarily complex administrative and committee structure relating to environmental matters has been established. In addition to the Department of the Environment and the Energy Resources Conservation Board, both of which are assigned specific administrative and executive authority, and other Government Departments with proper interests, the following advisory, co-ordinating, or study groups have been established:

Environment Conservation Authority

Natural Resources Co-ordinating Council

Conservation and Utilization Committee

Energy Committee

The Board suggests that this whole structure be reviewed with the objective of trimming it to an efficient one which could discharge the environmental management responsibilities of the Government effectively and economically. Following clarification of broad policy matters this might be done by a small task force composed of

people knowledgeable in the various facets of the problem. Substantial changes in the legislation would probably be called for.

G. W. GOVIER

November 8, 1971

APPENDIX 1

Form of Letter 1

(Signed by Board Member)

Attached is a copy of an application by _____
for _____ received by the
Board on _____ and registered as Application No. _____.
For the time being, until publication of Notice by the Board,
the existence and content of the application should be treated
as confidential.

The Board is now reviewing the application, not from the
viewpoint of its merits, but to determine if it is sufficiently
complete for the Board to proceed with notice and arrangements
for a public hearing. The Board proposes to inform the appli-
cant on this point approximately _____. If you should
have any advice on the question of the completeness of the
application the Board would appreciate receiving it in writing
not later than _____.

The Board will send you a copy of any "deficiency" letter
which it may send to the applicant and also of the Notice of
Hearing. The Board will also send you in due course a copy of
any further supporting submission by the applicant and any
intervention received by it. The Board would appreciate re-
ceiving your written advice on the merits of the application by
the date indicated in the Notice of Hearing for the filing of
interventions. Unless you specifically request otherwise the
Board will supply copies of your advice on the merits of the

application to the applicant, interveners and other interested Government Departments. If you request it, the Board will keep your advice confidential, and in such case, though the Board could not treat your advice as evidence or reasons for or against the application, it would enhance the Board's insight in the matter and might provide a basis of the Board's examination of the applicant.

In the event the Department does not wish to provide written advice on the merits of the application to the Board, or does so on a confidential basis, the Board would appreciate being informed, by the date specified in the Notice of Hearing, whether the Department will be represented at the Hearing and if so whether it will wish to participate in cross-examination and/or present closing argument.

Yours sincerely,

APPENDIX 2

1. Approval No. 1528
IN THE MATTER of a scheme of Sun Oil Company
for the processing of gas produced in the
Hartell Area and Black Diamond Field

2. Form of Approval
IN THE MATTER of a power plant of Canadian
Utilities, Limited on the Battle River

THE PROVINCE OF ALBERTA
THE OIL AND GAS CONSERVATION ACT
OIL AND GAS CONSERVATION BOARD

IN THE MATTER of a scheme of
Sun Oil Company for the pro-
cessing of gas produced in the
Hartell Area and Black Diamond
Field

APPROVAL NO. 1528

The Oil and Gas Conservation Board, pursuant to The Oil and Gas Conservation Act, being chapter 267 of the Revised Statutes of Alberta, 1970, hereby orders as follows:

1. The scheme of Sun Oil Company (hereinafter called "the Operator") for the processing of gas produced in the Hartell Area and Black Diamond Field, as such scheme is described in an application to the Board dated February 16, 1971, and descriptive material supporting the application marked as Exhibits 1 and 2 at a hearing by the Board on April 13, 1971, is approved, subject to the terms and conditions herein contained.

2. The gas shall be processed in a plant located in Legal Subdivision 10 of Section 12, Township 19, Range 2, West of the 5th Meridian.

3. The plant shall be operated up to a maximum capacity of 12.3 million cubic feet per day (at 14.65 pounds per square inch absolute and 60° Fahrenheit) of plant feed stock (raw gas and condensate) containing not more than 365 thousand cubic feet per day (at 14.65 pounds per square inch absolute and 60° Fahrenheit) of hydrogen sulphide.

4. (1) Processing operations shall not commence until such time as the Board has approved the remaining details necessary to complete the second part of a two-part application as required by the Oil and Gas Conservation Regulations.

(2) After commencement of operations, all of the gas produced from the wells supplying the plant that is not required for lease fuel shall be gathered and processed for

(a) the substantially complete recovery of marketable gas,

- (b) the substantially complete recovery of liquid hydrocarbons removed from the gas in the preparation of marketable gas, and
- (c) the recovery in any three-month period commencing January 1, April 1, July 1 or October 1 in the form of elemental sulphur of not less than 93 per cent of the sulphur contained in the gas delivered to the plant.

(3) The Board may require that the Operator provide and use facilities for the separate recovery of propane and butanes, if in the Board's opinion, and having regard to marketing conditions, it is reasonable to do so.

5. (1) The tail gas from the sulphur recovery plant shall be incinerated for the substantially complete conversion of all sulphur and sulphur compounds to sulphur dioxide and the resultant gas stream shall be emitted to the atmosphere through the sulphur plant incinerator stack.

(2) The emission of sulphur dioxide, and the sulphur dioxide equivalent of other sulphur compounds, to the atmosphere from the sulphur plant incinerator stack shall not exceed 1.91 long tons per day (0.955 long tons per day equivalent sulphur).

(3) The incinerator stack height shall be sufficient to maintain the maximum half hour average concentrations of sulphur dioxide within the requirements set out in the Oil and Gas Conservation Regulations and shall be a minimum of 300 feet.

(4) The incinerator stack flue gas emission temperature shall be a minimum of 1000° Fahrenheit.

6. (1) The Operator shall operate the plant so that a minimum of gaseous hydrocarbons and other gases is flared.

(2) In no event shall the Operator flare gaseous hydrocarbons and other gases

- (a) from January 1, 1972 to December 31, 1972, in excess of one per cent of the total volume delivered to the plant, and
- (b) in the year 1973 and in each year thereafter, in excess of one-half of one per cent of the total volume delivered to the plant in the year.

(3) In the event of an emergency extending for more than 48 hours as a result of which abnormal volumes of gas are flared at the plant, the Operator shall notify the Board immediately.

(4) The Operator shall not flare liquid hydrocarbons without prior approval of the Board except in the event of an emergency, in which case the Operator shall notify the Board immediately.

7. The true vapour pressure of the stored pentanes plus product shall not exceed 12 pounds per square inch absolute.

8. The Operator shall control the emission of sulphur dust from the plant to the satisfaction of the Board.

9. The Operator shall operate equipment and installations used for the treatment of process water so that no significant pollution of air, soil or fresh water occurs.

10. (1) The Operator shall conduct one stack survey per year for the determination of the volume rate of flow, composition and temperature of the effluent gas from the incinerator stack.

(2) The stack sampling test required by subclause (1) shall be made when the plant is operating at not less than 90 per cent of its maximum raw gas inlet rate or maximum sulphur production rate.

11. (1) The Operator shall maintain a minimum network of four exposure cylinder stations for the detection of hydrogen sulphide and total sulphation in the plant vicinity and shall expand the network to include other locations that the Department of the Environment may deem necessary.

(2) The Operator shall maintain a monitoring program to the satisfaction of the Department of the Environment, to provide a continuous record of atmospheric sulphur dioxide concentration (by means of an instrument sensitive enough to read to 0.05 parts per million), wind speed, wind direction and atmospheric hydrogen sulphide concentration (by means of a 'spot tape' type of analyzer) for two months of each year from a mobile laboratory in the plant vicinity.

(3) If the Department of The Environment so requires, this monitoring program shall be expanded to include other types of analyzers.

12. (1) The Operator shall summarize the results of the incinerator stack survey and file them with the Board as soon as they are available.

(2) The Operator shall summarize the results of the observations required by clause 11 and file them with the Department of the Environment before the end of the month following that for which the observations were made.

13. The Operator shall use methods of measurement at the plant for the determination of gas volumes, liquid volumes and sulphur production that have been approved by the Board.

14. The Operator shall provide and use facilities for the storage of sulphur and for the surface or underground storage of liquid products that, in the opinion of the Board, are adequate and reasonable.

15. The Board may at any time vary the terms and conditions hereof or may suspend or revoke this approval if, in its opinion, circumstances so warrant.

MADE at the City of Calgary, in the Province of Alberta, this 13th day of May, A. D. 1971.

OIL AND GAS CONSERVATION BOARD

A. F. Manyluk
Deputy Chairman

FORMS OF APPROVAL AND ORDER

Form of Approval

THE PROVINCE OF ALBERTA

THE HYDRO AND ELECTRIC ENERGY ACT

ENERGY RESOURCES CONSERVATION BOARD

IN THE MATTER of a power plant
of Canadian Utilities, Limited
on the Battle River

APPROVAL NO. HE

The Energy Resources Conservation Board, pursuant to The Hydro and Electric Energy Act, being chapter 49 of the Statutes of Alberta, 1971, and the Lieutenant Governor in Council having given his authorization by Order in Council, dated _____, 1971, and numbered O.C. _____/71, hereby orders as follows:

1. The construction and operation by Canadian Utilities, Limited (hereinafter called "the Operator") of a power plant near Forestburg, Alberta, is approved.

2. Subject to the other provisions of this Approval, the power plant shall be in accordance with

(a) letter dated September 30, 1953 and Preliminary Permit, dated September 29, 1953, from the Acting Director of Water Resources to the Operator, to carry out investigations and surveys on the Battle River,

- (b) Interim License No. 3110 from the Acting Director of Water Resources, dated March 24, 1955, to construct works for the utilization of water from the Battle River,
- (c) License of Occupation No. 574 from the Department of Lands and Forests, dated October 31, 1955, of part of the bed of the Battle River therein described for a dam site,
- (d) License of Occupation No. 577 from the Department of Lands and Forests, dated November 29, 1955, of part of the bed of the Battle River therein described for a water intake site,
- (e) letter, dated November 22, 1960, from the Alberta Power Commission to the Operator approving the installation of a 33 MW unit in 1964,
- (f) Final License No. 1008, dated December 6, 1962 from the Director of Water Resources to divert water for a power plant water supply,
- (g) letter, dated September 18, 1964, (Approval No. 556) from Alberta Power Commission to the Operator approving the installation of a 70 MW unit in 1968,
- (h) letter, dated July 28, 1965, from Alberta Power Commission to the Operator amending Approval No. 556 by increasing approved capacity to 150 MW,

- (i) report submitted September 16, 1969, by the Operator to the Environmental Health Services Division for the purpose of obtaining approval for air pollution control,
- (j) application, dated June 14, 1971, from the Operator to the Board and information and particulars in support thereof, filed as Exhibits 1 and 2 at a hearing of the said application on August 3, 1971, and
- (k) application, dated August, 1971, from the Operator to the Pollution Control Division of the Department of the Environment for approval of the water pollution aspects respecting the Battle River Power Plant addition.

3. The power plant shall be located in Section 29, Township 40, Range 15, West of the 4th Meridian.

4. The Operator shall make, or cause to be made, suitable biota surveys, to the satisfaction of the Department of the Environment, on the part of the Battle River in which the operation of the power plant may affect fish or plant life, and shall file copies of the surveys with the Department of the Environment and the Board at times stipulated by the Department of the Environment.

5. The Operator shall satisfy the Board, on or before December 29, 1972, with respect to the existing power plant,

- (a) that the power plant henceforth shall be operated so that the emissions from the stacks will not lead to calculated maximum half-hour ground level concentrations of sulphur dioxide greater than 0.20 parts per million and of oxides of nitrogen, expressed as nitrogen dioxide, greater than 0.30 parts per million,
- (b) that the power plant shall be operated so that the emission of particulate matter from any stack does not exceed
 - (i) 0.40 pounds per 1000 pounds of effluent, adjusted to 50 per cent excess air, or
 - (ii) such other standard as the Department of the Environment may establish before December 29, 1972,
- (c) that the manner in which it withdraws, uses and returns condenser cooling water from the Battle River or the reservoir thereon shall not result in a thermal barrier, as defined by the Department of the Environment, exceeding 5.4 Fahrenheit degrees,
- (d) that the disposal to the Battle River or the reservoir of any water from ash settling ponds is not harmful,
- (e) that the possibility of the addition to the Battle River of harmful metallic or other compounds from drainage from coal storage piles has been essentially eliminated, and

(f) that the possibility of contamination of the Battle River by regenerant effluents or aqueous, chemical or oily wastes has been essentially eliminated.

6. The Operator shall satisfy the Board, before commencement of operation of Unit 4 of the power plant, that the conditions referred to in clause 5 for the existing plant will be satisfied for the plant with the addition of Unit 4.

7. On and after January 1, 1973, or such later date as the Board may stipulate with regard to any requirement, the Operator shall so operate the power plant that the criteria of clause 5 are continuously satisfied.

8. (1) The Operator shall maintain a minimum network of eight stations for measuring total dust fall and eight exposure cylinder stations for the detection of total sulphation in the plant vicinity, and shall expand the network to include other locations that the Department of the Environment may deem necessary, and shall analyze the results of the measurements monthly.

(2) The Operator shall establish two high volume sampler stations at which one sample shall be taken each week on a random schedule and analyses made, including analyses of suspended particulate matter concentrations.

(3) The Operator shall continuously monitor sulphur dioxide and oxides of nitrogen over periods of two months during each summer and two months during each winter at locations approved by the Department of the Environment.

(4) The Operator shall conduct two stack sampling surveys per year, conducted when the boiler is operating at not less than 90 per cent of its full load coal consumption rate for the determination of the volume rate of flow and composition and temperature of the effluent gas from each stack, and the determination of particulate emissions, sulphur dioxide emissions, and total oxides of nitrogen emissions.

9. The Operator shall provide and operate facilities for the monitoring of the temperature, the pH (index of the acidity or alkalinity), and the composition of the water returned to and flowing in the Battle River and the reservoir, and shall report thereon to the satisfaction of the Department of the Environment and the Board.

10. The Operator, by July 1, 1972, shall determine and report the type and concentrations of heavy metals in the raw coal and residual ash and the rate of emission of each of the heavy metals from each of the stacks in pounds per hour.

11. (1) The Operator shall promptly summarize the results of the stack surveys required by clause 8, subclause (4) and file them with the Board.

(2) The Operator shall summarize the observations required by clause 8, subclauses (1) to (3) and file them with the Department of the Environment before the end of the month following that for which the observations were made.

12. The Operator shall provide and use facilities for the storage of coal and liquid fuels that, in the opinion of the Board, are adequate and reasonable.

13. The Board at any time,

(a) upon its own motion, or

(b) upon the application of an interested person,

may vary the terms and conditions hereof or rescind this approval.

MADE at the City of Calgary, in the Province of Alberta, this _____ day of _____, A.D. 1971.

ENERGY RESOURCES CONSERVATION BOARD

G. W. Govier
Chairman

APPENDIX 3

Highlights of the Pollution Control Provisions of

The Energy Resources Conservation Act
The Oil and Gas Conservation Act
The Hydro and Electric Energy Act
The Coal Conservation Act (Proposed)

The Energy Resources Conservation Act

The Energy Resources Conservation Act provides primarily for the organization, constitution and financing of the Energy Resources Conservation Board and for the establishment of the Energy Committee. It deals only in the broadest way with the powers and duties of the Board, section 23 reading as follows:

"23. The Board, with the approval of the Lieutenant Governor in Council, may take such action and may make such orders and directions as the Board considers necessary to effect the purposes of this Act and as are not otherwise specifically authorized by this Act."

One of the expressed purposes of The Energy Resources Conservation Act is

"2(d) to control pollution and ensure environment conservation in the exploration for, processing, development and transportation of energy resources and energy,"

The Oil and Gas Conservation Act

The purposes of The Oil and Gas Conservation Act are given in section 5 as

- "(a) to effect the conservation of, and to prevent the waste of, the oil, gas and crude bitumen resources of Alberta,
- (b) to secure the observance of safe and efficient practices in the locating, spacing, drilling, equipping, completing, reworking, testing, operating and abandonment of wells and in operations for the production of oil, gas and crude bitumen,
- (c) to afford each owner the opportunity of obtaining his share of the production of oil or gas from any pool or of crude bitumen from any oil sands deposit,
- (d) to provide for the recording and the timely and useful dissemination of information regarding the oil, gas and crude bitumen resources of Alberta, and
- (e) to control pollution above, at or below the surface in the drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction."

Provisions of special interest are:

- "20. The Board, with the approval of the Lieutenant Governor in Council, may make such just and reasonable orders and directions as the Board considers necessary to

effect the purposes of this Act and as are not otherwise specifically authorized by this Act."

"22. (1) The Board may make regulations

1. prescribing the information that is to be included in or is to accompany any application under this Act or the regulations, including an application for a well licence;
22. as to the location of wells and the methods of operation to be observed during drilling and in the subsequent management and conduct of any well for any purpose including, without restricting the generality of the foregoing,
 - (i) the protection of life, property and wild life,
 - (ii) the prevention and extinguishment of fires,
 - (iii) the prevention of wells blowing out of control, and
 - (iv) the prevention of pollution;
26. requiring the combustion of vented gas;
27. governing operations to recover oil sands or crude bitumen or products derived from oil sands or crude bitumen and the abandonment of such operations;

28. prescribing the measures to be taken to control pollution above, at or below the surface in the drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction;"

"38. No scheme for

- (a) enhanced recovery in any field or pool, or
- (b) the processing or underground storage of gas, or
- (c) the gathering, storage and disposal of water produced in conjunction with oil or gas, or
- (d) the storage or disposal of any fluid or other substance to an underground formation through a well, or
- (e) the concurrent production of an oil accumulation and its associated gas cap, or
- (f) the production of gas occurring within or immediately adjoining oil sands,

shall be proceeded with unless the Board, by order, has approved the scheme upon such terms and conditions as the Board may prescribe."

"43. (1) No scheme or operation for the recovery of oil sands, crude bitumen or products derived therefrom shall be proceeded with unless the Board,

upon application, has approved it in accordance with this section."

The Energy Resources Conservation Board has made extensive regulations under The Oil and Gas Conservation Act relating to:

- 2.120 Water Pollution Control
- 8.010 etc. Storage of Oil
- 8.040 Water Disposal
- 8.050 etc. Control of Oil Spills
- 8.080 Burning of Vented Gas
- 8.150 etc. Care of Well Sites and Battery Sites
- 9.010 etc. Gas Processing Plants
- 12.010 etc. Records and Reports (including certain special reports relating to pollution control)
- 15.010 etc. Information to be supplied with certain applications (including those for gas processing plants, water disposal, batteries emitting sour gas).

The Hydro and Electric Energy Act

The purposes of The Hydro and Electric Energy Act are given in section 2 as

- "(a) to provide for the appraisal of the reserves and productive capacity of hydro energy and electric energy in Alberta,

- (b) to provide for the appraisal of the requirements for electric energy in Alberta and of markets outside Alberta for electric energy generated in Alberta,
- (c) to provide for the economic, orderly and efficient development in the public interest of the hydro energy and the generation of electric energy in Alberta,
- (d) to secure the observance of safe and efficient practices in the public interest in the development of hydro energy and in the generation, transmission and distribution of electric energy,
- (e) to control pollution and ensure environment conservation in the development of hydro energy and in the generation, transmission and distribution of electric energy, and
- (f) to provide for the recording and timely and useful dissemination of information regarding hydro energy and the generation, transmission and distribution of electric energy in Alberta."

Provisions of special interest are:

- "3. (1) The Board may make regulations
 - 1. prescribing the information that is to be included in or is to accompany any application under this Act or the regulations;

6. as to the measures to be taken in the construction, operation or abandonment of any power plant or transmission line for

(i) the protection of life, property and wild life,

(ii) the prevention and extinguishment of fires, and

(iii) the control of pollution and ensuring environment conservation;

7. as to the inspection of power plants and transmission lines both during and after construction;"

"7. (1) No person shall construct or operate

(a) a hydro development, or

(b) a power plant,

unless the Board, by order and with the authorization of the Lieutenant Governor in Council, has approved the hydro development or power plant.

(2) The holder of an approval under this section shall not make a significant alteration in his hydro development or power plant unless the Board has amended the approval or issued a new approval to cover the alteration."

"8. (1) The Board shall refer an application for approval of a hydro development to the Department of the

Environment and the Department of Lands and Forests for their advice.

- (2) The Board shall refer an application for approval of a power plant to the Department of the Environment for its advice.
- (3) In considering an application under section 7, the Board shall consider the advice of a Department to which the application was referred under subsection (1) or subsection (2)."

- "9. (1) No person shall construct a transmission line or any part thereof, or undertake any operations preparatory to the construction thereof, unless he is the holder of a permit issued by the Board.
- (2) No person shall make a significant extension or alteration of a transmission line unless the Board has amended his permit or issued a new permit to cover the extension or alteration."

- "10. (1) The Board shall refer an application for a permit or an amendment of a permit to the Department of the Environment and the Department of Lands and Forests for their advice.
- (2) In considering an application under section 9, the Board shall consider the advice of a Department to which the application was referred under subsection (1)."

- "15. (1) Upon an application for an approval, permit or licence under this Part, or for an amendment of an approval, permit or licence, the Board may grant the approval, permit, licence or amendment subject to such terms and conditions as it may prescribe or may deny the application.
- (2) Without restricting the generality of subsection (1), the Board may
- (a) require changes in the plans and specifications of a hydro development, power plant or transmission line, or
 - (b) require changes in the location of a hydro development, power plant or transmission line, or
 - (c) prescribe a date before which the construction of, or operation of, the hydro development, power plant or transmission line must commence."

The Board has not yet issued regulations under The Hydro and Electric Energy Act but has issued two Interim Directives. Interim Directive ID-HEE 71-2 defines interim procedures relating to applications for approval of electric distribution systems and of construction and operation of hydro developments, power plants and transmission lines. These procedures were developed following discussion with the departments of Government believed to have an interest. A copy of ID-HEE 71-2 is included as part of this Appendix.

The Coal Conservation Act (Proposed)

A draft of the proposed bill for the enactment in the 1972 Session of the Legislature of The Coal Conservation Act has been completed by the Board. Discussion of the draft with Government departments and the coal industry will commence immediately upon the fixing by the Lieutenant Governor in Council of the date of proclamation of Section 52 of The Energy Resources Conservation Act conveying to the Board responsibility for the administration of The Coal Mines Regulation Act and The Quarries Act. Following are the highlights of the proposed Act which relate to pollution control and environmental matters:

" 5. The purposes of this Act are

- (a) to provide for the appraisal of Alberta's coal resources;
- (b) to provide for appraisals of coal requirements in Alberta and in markets beyond the provincial borders;
- (c) to ensure orderly, efficient and economic development of Alberta's coal resources in the public interest;
- (d) to effect conservation, and prevent waste, of the coal resources of Alberta;
- (e) to control pollution and ensure conservation of the natural environment in the development of the coal resources of the Province;

- (f) to ensure the observance of safe and efficient practices when exploring for, mining, storing, processing and transporting coal; and
- (g) to provide for the recording, and for the timely and useful dissemination, of data and information relating to exploration for coal and to the occurrence, reserves, quality, production, transportation, processing and use of coal in Alberta."

"8. (1) The Board may make regulations

- b. specifying the information that must be included with or accompany an application under this Act or the regulations;
- f. setting out the measures which a holder of a permit, licence or approval under this Act shall take to prevent pollution of air, water and land at a mine site or coal processing plant;
- k. prescribing what inspections are to be made in a mine or at a mine site and by whom such inspections are to be carried out and reported;
- m. prescribing the manner in which lands and bodies of water disturbed by mine site development, mining or coal processing shall be reclaimed or restored;

- n. prohibiting the development of a mine, mine site or coal processing plant at any point within a stated distance of a boundary, road, road allowance, lake, river, stream, pipe line or other public or private works;"

"14. No person shall

- a. in connection with an exploratory or experimental program, drill holes to a depth in excess of 500 feet or develop an adit, tunnel, shaft or other excavation; or
- b. develop a mine site or mine, without first making application for, and obtaining, a permit from the Board."

"15. No person shall

- a. commence mining operations at a site at which such operations have not previously been undertaken; or
- b. begin mining operations at an abandoned mine; or
- c. resume mining operations at a mine at which normal working has been suspended for a period of more than twelve months, without first making application for, and obtaining, a licence from the Board."

"16. When an application is made for

a. a permit to develop a new surface or open pit mine, or

b. a licence to resume operations at a previously abandoned surface or open pit mine,

the application shall be accompanied by a proposed scheme for reclamation of all disturbed lands."

"18. The Board shall refer applications under section 14 of this Part to the Department of the Environment, to the Department of Lands & Forests, and to such other Departments of Government as it considers appropriate in a particular case, for their advice, and take such advice into account when dealing with such applications."

"19. (1) No holder of a permit or licence shall, without the prior approval of the Board in writing, materially alter or go beyond the program of operations upon which his permit or licence was granted in the first place.

(2) An application for a permit or licence to depart from or extend a previously authorized program shall be accompanied by a statement setting out the reasons for the proposed alteration and describing the proposed change or extension, and shall where necessary be supplemented with such further information as the Board may require.

(3) When considering an application under subsection (2), which proposes to extend a surface or open pit mine, the Board shall obtain the advice of the Department of the Environment and the Department of Lands & Forests before giving its approval."

"22. (3) The approval of an abandonment operation by the Board does not relieve the licensee or any other person liable, of the burden of other or further abandonment operations that may from time to time become necessary."

"26. Where, after completion of the required surface reclamation program, an application is made to the Board for an approval of an abandonment, the Board shall, before giving its approval, refer the application to the Department of Lands & Forests and to the Department of the Environment for their advice."

"29. (1) No person shall

- a. construct or begin operations at a new coal processing plant, or
- b. resume operations at a previously shut-in or abandoned coal processing plant, or
- c. revert to normal operation at an extensively rebuilt, modified or re-equipped coal processing plant,

or work in facilities directly connected with such a plant without first making application for, and obtaining, an approval from the Board.

- (2) An application under subsection (1) shall
 - a. show the exact location of the coal processing plant and all connected facilities in relation to
 - (i) the mine or mines from which the plant draws coal,
 - (ii) all nearby bodies of water, and
 - (iii) inhabited buildings and other private or public works;
 - b. specify what steps are proposed for controlling pollution from the plant and its connected facilities; and
 - c. provide such further information as the Board may require to decide the matter."

"30. (1) Where an application under section 29 proposes the operation of a plant in connection with which extensive waste disposal facilities are required, or which in the opinion of the Board appears in some other manner likely to significantly affect or alter the quality of air, water or land, the Board shall refer the application to the Department of Lands & Forests and to the Department of the Environment for their advice."

"31. Where, at any time after issue of an approval, it appears to the Board that operations at a coal processing plant or facilities connected with the plant fail to comply with the conditions under which the approval was granted in the first place, or by which it was subsequently amended, the Board may order the plant or affected parts thereof to be shut down until the defect is remedied."

- "34. (1) At any reasonable time, any Board member or authorized agent of the Board shall
- a. have unrestricted access to mine sites, mines and processing plants, and to all roads and other works connected with them;
 - b. be free to enter upon any lands that must be crossed to reach a mine site, mine, processing plant or connected works;
 - c. be entitled to make inspections, investigations or tests at a mine site, mine, processing plant and connected works, and to take samples there; and
 - d. have the right to examine all books, records and documents pertaining to a mine site, mine, processing plant and connected works.
- (2) A person authorized by the Board to exercise any of the powers referred to in subsection (1) shall, at

any time while exercising these powers, produce his certificate of authority when requested to do so.

- (3) Any holder of a permit, licence or approval under Parts 4 and 5 of this Act, or any person in charge of a mine site, mine or processing plant, or any contractor or employee of such persons shall assist any Board member or authorized agent of the Board in the exercise of powers conferred by subsection (1). "

THE PROVINCE OF ALBERTA
ENERGY RESOURCES CONSERVATION BOARD

Interim Directive
No. ID-HEE 71-2

To: Operators of Hydro Developments,
Power Plants, Transmission Lines and
Electric Distribution Systems

With the coming into force on June 1, 1971, of The Energy Resources Conservation Act and The Hydro and Electric Energy Act, the Energy Resources Conservation Board has been assigned responsibilities with respect to the generation, transmission and distribution of electric energy.

Regulations under The Hydro and Electric Energy Act will be developed in the next few months in consultation with representatives of operators of electric facilities. The attached appendices listed below set out interim procedures and requirements to apply until the regulations come into effect for those facilities which require Board authorization before construction or being placed in operation:

- | | |
|----------------|--------------------------------------|
| APPENDIX 1 | Hydro Developments, |
| APPENDIX 2 | Power Plants, |
| APPENDIX 3 (1) | Construction of a Transmission Line, |
| APPENDIX 3 (2) | Operation of a Transmission Line, |

Interim Directive
No. ID-HEE 71-2

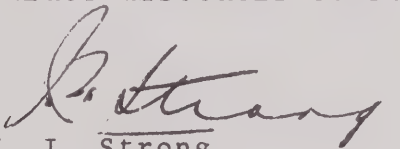
APPENDIX 4 Electric Distribution Systems,
APPENDIX 5 Interconnections.

N.B. An application under Appendix 1, 2, 3 (1) or 4 may be made jointly with an application for connecting to other facilities as outlined in Appendix 5. The Board would expect that an application under Appendix 1 would be made jointly with an application under Appendix 2.

The Act provides that the Board may decide whether any line or system or installation is, or is part of, a power plant, a transmission line or an electric distribution system.

ISSUED at the City of Calgary, Alberta, this 19th day
of August, 1971.

ENERGY RESOURCES CONSERVATION BOARD


J. I. Strong
Board Member

APPENDIX 1 to ID-HEE 71-2

HYDRO DEVELOPMENTS

The Hydro and Electric Energy Act defines a hydro development as

- (i) a project for the furnishing of hydro energy to a power plant, and
- (ii) includes dams, diversion works, water conduits and all structures, machinery, appliances, fixtures and equipment, and all appurtenances and lands and rights of way required in connection with that project.

An application under section 7, subsection (1), clause (a) of The Hydro and Electric Energy Act for approval of construction or operation of a new hydro development or a major modification of an existing hydro development shall include

- (a) a topographic or other suitable map, covering a minimum area within a five-mile radius of the development or such larger area as may be affected by the development showing the overall project including

- (i) location,
- (ii) river diversion facilities,
- (iii) dams,
- (iv) spillways,
- (v) power plants,
- (vi) switching facilities,
- (vii) transmission lines,

- (viii) low level outlets, and
 - (ix) other facilities which form a major part of the project, including reference to other hydro developments affecting the river,
- (b) specifications of
- (i) river diversion facilities,
 - (ii) dams,
 - (iii) spillways,
 - (iv) storage reservoirs, and
 - (v) low level outlets,
- (c) a description and discussion of the hydraulic aspects of the project including the adequacy of flood control facilities, the effect of water level changes on existing and planned developments both above and below the area, and expected ice conditions and ice movement over the range of possible winter operation,
- (d) a discussion of the potential for the expansion of the proposed hydro development, including pumped storage if it would be used or if it could affect such potential,
- (e) a discussion of the suitability of the project as a source of electric energy for the applicant's system, the Province as a whole, and any other present or proposed electric energy markets, and as comparable to any alternative project,

- (f) a discussion of provisions for minimizing environmental damage due to
 - (i) erosion,
 - (ii) alteration of water flow rates,
 - (iii) landscape disfiguration,
 - (iv) the effect of reservoir ice cover on downstream water conditions and ice buildup, and
 - (v) public use of any ponds created by the development,
- (g) an overall energy balance for the hydro development based upon operation at maximum and normal water head,
- (h) estimated capital and operating costs of the project,
- (i) a statement of the applicant's title to the use of the location, and
- (j) in any individual case, such other information as the Board may require.

POWER PLANTS

The Hydro and Electric Energy Act defines a power plant as the facilities for the generation of electric energy from any energy source.

An application under section 7, subsection (1), clause (b) of The Hydro and Electric Energy Act for approval of construction or operation of a new power plant, or a major modification to an existing power plant, shall include, where applicable,

- (a) the location of the power plant,
- (b) a discussion of the reasons, related to the control of pollution and the influence upon and protection of the environment, for the location chosen, supported by topographical or other maps covering an area of at least a five mile radius or such larger area as may be affected by the development,
- (c) details as to the type of power plant, its capacity and its potential for expansion,
- (d) the reasons for the choice of fuel or source of energy having regard to the availability of alternative fuels or sources,
- (e) a discussion of the manner in which the capacity was determined and the plant's role in providing for the economic, orderly and efficient development of the hydro energy and generation of electric energy in the applicant's system, in the Province as a whole, and for any other proposed electric energy markets,

- (f) for all plants except those with small internal combustion prime movers, the source and typical analysis of the fuel including its moisture, ash and sulphur content and its heating value,
- (g) an overall flow diagram for the power plant showing all key streams and quantities,
- (h) details of the facilities proposed for the measurement of all streams entering or leaving the power plant,
- (i) copy of a document indicating that the proper zoning authority has been notified of the proposed development,
- (j) an overall material balance for the power plant based upon its operation at capacity,
- (k) an overall energy balance for the power plant based upon its operation at capacity,
- (l) details of the method proposed for the control of dust from coal storage piles and ash disposal areas,
- (m) details of the method proposed for the disposition of ash,
- (n) the predicted analysis of the stack gases including the content of particulate matter,
- (o) details of the provisions to minimize the discharge of particulate matter in the stack gases,
- (p) stack design details including
 - (i) key dimensions, and the elevation of the base,
 - (ii) locations of the exit temperature measuring device, stack sampling ports, electric power sources, access ladder and platform,

- (iii) minimum stack gas emission temperature,
 - (iv) stack gas volume flow rate for operation at capacity,
 - (v) the average sulphur emission rate and the maximum peak sulphur emission rate, and
 - (vi) the average emission rate of oxides of nitrogen and the maximum peak emission rate of oxides of nitrogen,
- (q) evidence that the stack has been designed so that the maximum half-hour average concentrations of each of sulphur dioxide and oxides of nitrogen shall not exceed the following applicable standards:
- (i) 0.2 parts per million at ground level in populated areas and in areas where agricultural crops are grown, or
 - (ii) 0.3 parts per million in other areas, determined at tree top level in forested areas and at ground level in unforested areas,
- (r) evidence that the stack and dust collection facilities have been designed so that
- (i) the concentration of particulates in effluent to the atmosphere resulting from the combustion of fuels will not exceed 0.85 pounds per thousand pounds of effluent adjusted to 50 per cent excess air for products of combustion, and

- (ii) the amount of the total particulates retained on a 325-mesh screen will not exceed 0.4 pounds per thousand pounds of effluent,
- (s) submission of the monitoring program for the surrounding area satisfactory to the Department of the Environment,
- (t) a discussion of the method proposed for the treatment and disposal of any waste materials,
- (u) the source, analysis, temperature and amount of any water required for the operation of the power plant,
- (v) particulars of the diversion of any water to be used in the operation, approved by the Department of the Environment, and the manner of disposition of the water and the analysis and temperature of the water as disposed of,
- (w) a brief description of the transmission and switching facilities in the vicinity of the power plant, including a description of emergency procedures for loss of station service, black start or equipment failures,
- (x) a discussion of the stability, reliability and security of the applicant's generation and transmission system with the proposed plant,
- (y) the estimated capital and operating cost of the plant or plant addition, and the initial and future cost of electric energy per kilowatt hour at expected load factors,
- (z) a statement of the applicant's title to the use of the location, and

(aa) in any individual case, such other information as the Board may require.

CONSTRUCTION OF A TRANSMISSION
LINE

The Hydro and Electric Energy Act defines a transmission line as a system or arrangement of lines or wires or other conductors and transformation equipment, wholly within the Province and whereby electric energy, however produced, is transmitted, and

- (i) includes all property of any kind used for the purpose of, or in connection with, or incidental to the operation of a transmission line, but
- (ii) does not include a power plant or an electric distribution system.

An application under section 9, subsection (1) of The Hydro and Electric Energy Act for a permit to construct a new transmission line or to make a significant extension or alteration of a transmission line shall include

- (a) a map showing the route of the transmission line including
 - (i) topographic features, highways and urban areas, and
 - (ii) switching and substation facilities,
- (b) sufficient details of the transmission line to outline
 - (i) its capacity and dependability,
 - (ii) switching and protection features and nominal ratings of equipment,

- (iii) system vulnerability to a sudden loss or isolation of the transmission line from the overall system,
- (c) evidence that the construction of the transmission line will comply with the requirements of The Electrical Protection Act,
- (d) evidence that the construction of the transmission line will comply with any applicable requirement of The Water, Gas, Electric and Telephone Companies Act and with section 31 of The Hydro and Electric Energy Act,
- (e) a discussion of the effect of the transmission line on the environment,,
- (f) evidence that the proposed transmission line and its method of operation is in the interests of the area which it is intended to serve, having regard to the interests of the Province as a whole,
- (g) if the applicant has acquired any titles or rights of way for the transmission line, particulars thereof, and
- (h) in any individual case, such other information as the Board may require.

OPERATION OF A TRANSMISSION LINE

An application under section 11 of The Hydro and Electric Energy Act for a licence to operate a transmission line, shall include

- (a) a statement that the transmission line has been constructed in accordance with the permit granted respecting its construction and in accordance with the requirements of The Electrical Protection Act, and has been inspected and declared safe for operation by a properly qualified professional engineer,
- (b) the month in which the transmission line will be placed in operation and the voltage and capacity at which it is proposed to operate it, and if the line is to be operated initially at a voltage level other than that for which it was designed, a discussion of the reasons for such operation with an estimate of the year in which application will be made for a change to design voltage,
- (c) an estimate of the maximum power, both real and reactive, forecast to flow in each direction over the line,
- (d) any contractual obligations, such as for wheeling of power and energy, which have been entered into,
- (e) particulars of any titles, rights of way or statutory expropriation for the transmission

line acquired after the application for a permit
to construct the line, and

(f) in any individual case, such other information as
the Board may require.

ELECTRIC DISTRIBUTION SYSTEMS

The Hydro and Electric Energy Act defines an electric distribution system as any system, works, plant, equipment or service for the delivery, distribution or furnishing of electric energy directly to the consumers, but does not include a power plant or transmission line.

An application under section 20 of The Hydro and Electric Energy Act for approval of the construction or operation of an electric distribution system shall include

- (a) a map showing the area proposed to be served and a statement of when each part thereof will be in service,
- (b) particulars respecting the proposed system including
 - (i) the voltages at which the system is to be operated,
 - (ii) the principal sources of the electric energy to be distributed, and
 - (iii) the provisions for alternate supply if the principal sources of supply be cut off in an emergency,
- (c) evidence that the applicant will be able to provide satisfactory service to the prospective consumers in the area to be served,
- (d) evidence that the construction of the electric distribution system complies with the requirements of The Electrical Protection Act and The Water, Gas, Electric and Telephone Companies Act, and

- (e) particulars of the agreement or franchise between the local authority and the applicant with respect to the area to be served.

An application under section 23, subsection (1) of The Hydro and Electric Energy Act for approval of alteration of the boundaries of the service area of an electric distribution system shall include

- (a) a map showing the existing and applied for boundaries of the service area and the vicinity around the proposed boundary,
- (b) the reasons why the proposed boundary is desirable having regard for the provision of economic, orderly and efficient development in serving the interests of consumers of electric energy in the affected area, the consumers in the entire service area of the applicant, the consumers in the service area of the electric distribution system, if any, from which the area would be taken and the consumers in the Province as a whole,
- (c) where it is proposed that an area be taken from another electric distribution system, the basis on which the applicant proposes to compensate the owner of the other electric distribution system, and
- (d) the date at which it is proposed the alteration in the boundary of the service area will be made.

An application under section 24, subsection (1) of The Hydro and Electric Energy Act for approval of the discontinuance of operation of an electric distribution system or of the distribution of electric energy in any area, shall include

- (a) a description of the area in which the distribution of electric energy will be discontinued,
- (b) the reason why it is proposed to discontinue the distribution of electric energy in the area,
- (c) the date when it is proposed that the distribution system facilities will cease to be operated,
- (d) the date when the distribution system facilities to be removed from the service area will be salvaged, and
- (e) evidence that the facilities will remain in a safe condition until the facilities are salvaged.

In any individual application under section 20, 23 or 24 of The Hydro and Electric Energy Act, such other information shall be furnished as the Board may require.

INTERCONNECTIONS

An application under section 14 of The Hydro and Electric Energy Act for an order for the connection of a power plant, transmission line or electric distribution system to any other power plant, transmission line or electric distribution system shall include

- (a) a statement of the purpose of the interconnection,
- (b) a description of the tie line, switching and other related facilities of the interconnection,
- (c) a discussion of the stability, reliability and security of the interconnected systems,
- (d) the estimated amount of electric energy and the maximum power, both real and reactive, which will be transmitted annually in each direction,
- (e) a copy of any relevant agreement respecting the interchange of electric energy and power,
- (f) the basis of settlement for the net electric energy and power transmitted through the interconnection if such is not set forth in the agreement,
- (g) evidence that the interconnection is in the interests of the consumers served by the plants, transmission lines or systems to be interconnected, and of the Province as a whole, and
- (h) in any individual case such other information as the Board may require.

APPENDIX 4

ROLES DOCUMENTS

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1. Roles of the Department of Lands and Forests and the Oil and Gas Conservation Board in Areas of Mutual Concern	4-1
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POLLUTION CONTROL IN THE
OIL AND GAS INDUSTRY

Roles of the Department of Lands and Forests
and The Oil and Gas Conservation Board
in Areas of Mutual Concern

Preamble

The 1970 amendments to The Oil and Gas Conservation Act, 1969, assign to the Oil and Gas Conservation Board the basic responsibility for the control of pollution "in drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction". The intent of the Government, as the Board understands it, is that the Board will assume primary responsibility for pollution control in the oil and gas industry and would co-operate with the appropriate department or agency of Government in all areas of shared concern.

The Board's role in the control of pollution is to issue and, through field inspections and scrutiny of industry reports, enforce regulations, orders and approvals, relating to all forms of pollution in drilling, producing, treating, gas processing or oil sands operations and also associated with gathering line operations within Board designated fields. These regulations, orders and approvals will set out conditions designed to prevent pollution or to limit pollution levels within standards normally set in consultation with other Government Departments such as those of Health, Mines and Minerals, Lands and Forests and Agriculture. These departments, during any of their normal inspections of oil and gas industry operations, would continue to check for occurrences of pollution, but would only take immediate action if necessary to prevent a deterioration of the situation. In such cases they would immediately inform the Board of the action taken and the Board would take necessary follow-up action. In other cases, the Board would be notified so that remedial action could be initiated.

The Board will deal directly with those engaged in oil and gas operations to ensure that appropriate standards are met or to take action if they are not met.

I. Fish and Wildlife Division

A. Areas of Concern to Both the Division and the Board

1. Lake and stream pollution and other oil field operations which may affect fish or wildlife.

B. Role of the Division

1. Monitor rivers, streams and lakes for detection of pollution caused by oil field operations.

2. In the event pollution is noted in connection with monitoring or other inspections

(a) investigate and document findings

(b) if pollution is continuing, take immediate preventative action and/or report to Board for confirmatory and follow-up action

(c) report findings to the Board for remedial action

(d) take follow-up action where warranted pursuant to The Federal Fisheries Act or the Migratory Birds Convention Act.

C. Role of the Board

1. Issue and enforce regulations, orders or approvals designed to prevent pollution.

2. Maintain a continuing surveillance program of all drilling, producing and gas processing operations in the Province and at all gathering line operations within field areas as designated by the Board, for prevention of pollution.

3. Investigate reported pollution of lakes and streams and require clean-

up. Where appropriate the Division will be called on for assistance, and the Board will advise the Division of any action taken.

II. Alberta Forest Service

The following comments apply to forest areas only.

A. Areas of Concern to Both the Service and the Board

1. Vegetation damage from sulphur dioxide.
2. Fire hazard from flares.
3. Hydrogen sulphide hazard from sour well blowouts and sour gas gathering line leaks.
4. Pollution of lakes and streams by oil, salt water or drilling fluid.

B. Role of the Service

1. Carry out monitoring and advise Board regarding standard of cleanliness and pollution control in forest areas. Advise the Board regarding special requirements in certain areas or for specific operations.
2. Where pollution is detected in connection with other inspections,
 - (a) if continuing, take immediate preventative action and report to the Board for confirmatory and follow-up action, or
 - (b) report findings to the Board for remedial action.
3. Inspect well and battery sites for erosion control, fire prevention and sump location.
4. Warn or order evacuation of forest industry personnel and tourists in the event of a sour well flowing out of control.

5. Specify the area to be cleared around flare stacks to minimize fire hazard.

C. Role of the Board

1. Inspect well, battery sites and gathering lines during drilling and

production for compliance with Board regulations including pollution.

2. Investigate surface and water pollution. Where appropriate, the Service will be called on for assistance and the Board will advise the Service of the action taken.

3. Advise the Service regarding technical problems associated with drilling and production.

4. Specify well and battery equipment and construction to control pollution in oil field operations.

5. In co-operation with the licensee, assists in controlling any well flowing out of control.

6. Issue orders closing an area adjacent to sour gas well flowing out of control. The Service would be consulted regarding area and timing of the order.

III. Lands Division

The following applies only to Public Lands.

A. Areas of Concern to Both the Division and the Board

1. Pollution of Public Land.

2. Location and construction of well sites, production facilities and gathering lines in areas of special pollution sensitivity.

B. Role of the Division

1. Administers disposition of Public Land. Surface leases in special sensitivity areas may be subject to special conditions designed to reduce the pollution hazard.

2. In the event pollution is noted in connection with monitoring or other inspections

(a) if pollution is continuing, take immediate preventative action

- and report to Board for confirmatory and follow-up action, or
- (b) report findings to the Board for remedial action.

3. On termination of a surface lease, order surface reclamation and issue a reclamation certificate on those lands covered by The Public Lands Surface Reclamation Regulations established under The Public Lands Act.

C. Role of the Board

1. Inspect well and battery sites and gathering lines during drilling and production for compliance with Board regulations including pollution.

2. Investigate surface and water pollution. Where appropriate, the Division will be called on for assistance and the Board will advise the Division of any action taken.

3. Advise the Division regarding technical problems associated with drilling and production.

4. Specify well and battery construction to control pollution in oil field operations.

5. In co-operation with the licensee, assists in controlling any well flowing out of control.

POLLUTION CONTROL IN THE
OIL AND GAS INDUSTRY

Roles of the Department of Health
and the Oil and Gas Conservation Board
in Areas of Mutual Concern

Preamble

The 1970 amendments to The Oil and Gas Conservation Act, 1969, assign to the Oil and Gas Conservation Board the basic responsibility for the control of pollution "in the drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction". The intent of the Government, as the Board understands it, is that the Board should co-operate with the appropriate department or agency of Government in all areas of shared concern. This document relates to the areas of concern to both the Department of Health and the Board.

A. Areas of Concern to Both the Department and the Board

1. Air pollution arising from the emission of smoke, hydrogen sulphide, sulphur dioxide, other sulphur gases and sulphur dust.
2. Land and surface water pollution arising from salt water, drilling fluids, oil or oily substances, sulphur dust, gas processing plant industrial wastes or oil sands plants industrial wastes.
3. Possible pollution of subsurface potable water arising from drilling fluids, oil, gas or salt water.

B. Overall Role of the Department of Health

1. Set standards of acceptable levels of pollution based upon biological or ecological considerations and advise the Board.
2. Issue and enforce orders and approvals relating to the disposal of process water, industrial waste, or sanitary waste from a processing plant except where the disposal is to an underground formation.
3. Monitor off-site pollution levels resulting from oil and gas producing and processing operations with scheduling planned co-operatively with the Board.
4. Appraise reports of monitoring by operators.
5. In co-operation with the Departments of Agriculture, Lands and Forests or other agencies, investigate complaints involving biological or ecological considerations.

6. Advise the Board of instances where monitoring results or investigated complaints indicate that pollution levels are above the acceptable standards. (This does not apply to the disposal of plant process water, industrial waste, or sanitary waste if disposal is to a body of surface water.)

C. Overall Role of the Board

1. Devise, issue and enforce regulations designed to maintain pollution levels within standards set by the Department of Health or more stringent standards prescribed by the Board.

2. Except as provided in item B2, issue and enforce orders and approvals relating to drilling, producing, treating, gas processing or oil sands operations incorporating conditions designed to maintain pollution levels within standards set by the Department of Health or more stringent standards prescribed by the Board.

3. Require appropriate metering and analysis of produced oil, gas and water of key streams in gas processing and oil sands plants. Carry out appropriate on-site inspections and tests of metering and analytical equipment.

4. Maintain on-site surveillance of drilling, producing, treating, gas processing and oil sands operations to ensure compliance with regulations, orders and approvals. (This would not involve off-site monitoring of levels of pollution.)

5. Investigate complaints from any sources, where appropriate in co-operation with the Department of Health or other departments or agencies. Determine causes where the investigation or Department of Health monitoring indicates that pollution levels are excessive. (This does not apply to the disposal of plant process water, industrial waste or sanitary waste if disposal is to a body of surface water.)

6. Require discontinuance of operations or take other appropriate action in the event of contravention of regulations or orders.

7. Set standards of acceptable levels of pollution where biological considerations are not important or where the standards set on biological considerations continue to result in valid complaints. Where appropriate, consultations would be held with the Department of Health and any other departments or agencies involved.

D. Details Relating to Pollution Control at Gas Processing Plants

1. The Board has the responsibility for regulations, approvals, orders and on-site surveillance respecting all aspects of pollution at gas processing plants except the disposal of process water, industrial waste or sanitary waste where the disposal is to a body of surface water. Pollution matters of concern to the Board will include emission of hydrocarbon vapours,

smoke, hydrogen sulphide, sulphur dioxide, sulphur dust, sulphur and other sulphur compounds, disposal of salt water in any manner and disposal of process water and other plant industrial waste where disposal is to an underground formation.

2. The Department of Health has the responsibility for regulations, approvals, orders, on-site surveillance and off-site monitoring relating to the disposal of process water or sanitary waste from a processing plant except where the disposal is to an underground formation.

3. The Department of Health will set standards where biological or ecological considerations are important.

4. The Department of Health will conduct off-site monitoring of pollution levels, appraise monitoring reports of operators and advise the Board of instances of excessive levels of pollution.

5. Applications for approval of gas processing schemes will be made to the Board and will include all necessary pollution control information. In the event that the applicant contemplates surface disposal of process or sanitary waste, separate application for approval of these aspects of the application will be made to the Department of Health. No construction related to a scheme for the processing of gas will be permitted until the Board has approved the location, conservation levels, and pollution control features of the scheme and, where applicable, the Department of Health has approved surface disposal methods. Prior to filing an application, an applicant would normally have informal discussions with the Board and with other agencies or departments of the Government concerned about location.

6. The Board will not normally consider an application unless the location of the proposed plant has first been approved by the appropriate planning or zoning authority, provided such authority exists.

7. (1) Applications for approval of processing of sweet gas at places remote from an inhabited area will not normally result in a public hearing nor be advertised for objections. However, notice of the application will be sent to all concerned Government departments and agencies (those listed in the Environment Conservation Act, and The Surface Reclamation Council). A copy of the application will accompany the notice to be sent by the Board to the Department of Health.

(2) Applications for approval of processing of sweet gas at locations near an inhabited area or of gas from which hydrogen sulphide will be removed at places remote from an inhabited area, will normally be advertised for objections. If not advertised they would be considered at a public hearing and in either case special notice will be sent to all concerned Government departments and agencies. A copy of the application will accompany the notice to be sent by the Board to the Department of Health.

(3) Applications for approval of processing of gas from which hydrogen sulphide will be removed at locations near an inhabited area will be subject to public hearing with special notice sent to all Government departments and agencies concerned. A copy of the application will be sent to the Department of Health.

(On the request of an applicant, an application whether dealt with as in paragraph (1), (2) or (3), could be considered in two stages: the first dealing with location, conservation levels and pollution control; the second with processing, metering and other details).

8. A single approval covering all aspects of the gas processing operation and all conditions pertaining to it except those related to the disposal of water to a surface body of water, will be issued by the Board. Where off-site monitoring of pollution levels by the operator is appropriate, the Board will consult with the Department of Health concerning the conditions to be prescribed.

9. For existing processing schemes, the Board will issue new approvals replacing the current Board and Department of Health approvals. The new approvals will combine the requirements of the existing approvals and may impose more stringent standards respecting sulphur recovery, measurement of stack emission and other pollution matters.

10. The Board approvals will include, where applicable conditions relating to

- (a) the location of the processing plant,
- (b) the overall process scheme which has been approved and the maximum process capacity,
- (c) conservation standards with respect to gas, natural gas liquids and sulphur,
- (d) measurements standards and procedures relating to the volume and composition of all streams flowing into or out of the plant and also of important internal streams,
- (e) permissible levels of emission of pollutants,
- (f) stack size and design, and the composition and conditions of stack gas volumes,
- (g) methods for on-site product storage,
- (h) disposal methods respecting water produced in association with gas or oil, and process water and other plant industrial waste unless the disposal is to a body of surface water,
- (i) off-site monitoring required of the operator and standards for reporting results, and
- (j) frequency and detail of reports which must be filed with the Board respecting the overall operation of the processing plant.

11. Certain conditions of general application may be included in the regulations rather than in the approvals.

12. Inspections of the plant, metering equipment, analytical equipment, tests and surveillance of reports of the operations will be the responsibility of the Board.

13. Actions taken as a result of contravention of conservation or pollution requirements at processing plants will be the responsibility of the Board. An exception to this would occur where action is required as a result of a contravention of Department of Health regulations respecting the disposal of plant process water, industrial waste or sanitary waste to a body of surface water.

POLLUTION CONTROL IN THE
OIL AND GAS INDUSTRY

Roles of the Department of Agriculture
and the Oil and Gas Conservation Board
in Areas of Mutual Concern

Preamble

The 1970 amendments to The Oil and Gas Conservation Act, 1969, assign to the Oil and Gas Conservation Board the basic responsibility for the control of pollution "in drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction". The intent of the Government, as the Board understands it, is that the Board will assume primary responsibility for pollution control in the oil and gas industry and would co-operate with the appropriate department or agency of Government in all areas of shared concern.

The Board's role in the control of pollution is to issue and, through field inspections and scrutiny of industry reports, enforce regulations, orders and approvals, relating to all forms of pollution in drilling, producing, treating, gas processing or oil sands operations and also associated with gathering line operations within Board designated fields. These regulations, orders and approvals will set out conditions designed to prevent pollution or to limit pollution levels within standards normally set in consultation with other Government Departments such as those of Health, Mines and Minerals, Lands and Forests and Agriculture. These departments, during any of their normal inspections of oil and gas industry operations, would continue to check for occurrences of pollution, but would only take immediate action if necessary to prevent a deterioration of the situation. In such cases they would immediately inform the Board of the action taken and the Board would take necessary follow-up action. In other cases, the Board would be notified so that remedial action

could be initiated. The Board will deal directly with those engaged in oil and gas operations to ensure that appropriate standards are met or to take action if they are not met.

I. Water Resources Division

A. Areas of Concern to Both the Division and the Board

1. Harmful interference or pollution of surface water and potable ground water resulting from oil or gas industry operations.

2. Acquisition of hydrogeological data.

B. Role of the Division

1. Registers wells which will produce water for any purpose except domestic use by owner or occupier of land until licensing procedure is initiated.

2. On receipt of Board license to drill a well, automatically licenses use of ground water pursuant to the Water Resources Act, effective January 1, 1971.

3. Advises the Board regarding ground water, including

(a) suitable regulations for completion of water injection supply wells,

(b) complaints of well owners,

(c) areas of ground water shortage.

C. Role of the Board

1. Licenses water injection supply wells and any wells deeper than 500 feet to

(a) restrict or prohibit the production of water for injection to oil pools in areas of ground water shortage or where it is in the public interest to do so. (a condition of the license)

(b) specify minimum depth and casing and cementing requirements for water injection supply wells.

(c) specify setting depth of surface casing in oil and gas or water wells to prevent pollution or depletion of aquifers.

2. Submits to Water Resources Division copies of licenses for water injection supply wells.

3. Obtains approval of Division for water wells in new areas or geologic zones where ground water supply is not certain. (Up until December 31, 1970 advice from Research Council, thereafter from the Division)

4. Submits data on water supply wells and other wells to the Division or the Research Council.

5. Receives and investigates complaints regarding interference or pollution of ground water supplies caused by oil or gas industry operations.

August 21, 1970

POLLUTION CONTROL IN THE
OIL AND GAS INDUSTRY

Roles of the Department of Mines and Minerals
and the Oil and Gas Conservation Board
in Areas of Mutual Concern

Preamble

The 1970 amendments to The Oil and Gas Conservation Act, 1969, assign to the Oil and Gas Conservation Board the basic responsibility for the control of pollution "in drilling of wells and in operations for the production of oil, gas and crude bitumen and in other operations over which the Board has jurisdiction". The intent of the Government, as the Board understands it, is that the Board will assume primary responsibility for pollution control in the oil and gas industry and would co-operate with the appropriate department or agency of Government in all areas of shared concern.

The Board's role in the control of pollution is to issue and, through field inspections and scrutiny of industry reports, enforce regulations, orders and approvals, relating to all forms of pollution in drilling, producing, treating, gas processing or oil sands operations and also associated with gathering line operations within Board designated fields. These regulations, orders and approvals will set out conditions designed to prevent pollution or to limit pollution levels within standards normally set in consultation with other Government Departments such as those of Health, Mines and Minerals, Lands and Forests and Agriculture. These departments, during any of their normal inspections of oil and gas industry operations, would continue to check for occurrences of pollution, but would only take immediate action if necessary to prevent a deterioration of the situation. In such cases they would immediately inform the Board of the action taken and the Board would take necessary follow-up action. In other cases, the Board would be notified so that remedial action

could be initiated. The Board will deal directly with those engaged in oil and gas operations to ensure that appropriate standards are met or to take action if they are not met.

I. Mines Division

A. Areas of Concern to Both the Division and the Board

Prevention of migration of oil, gas or water from a well into or adjacent to coal mines.

B. Overall Role of the Mines Division

1. Advise the Board on the location and classification of coal mines.
2. Advise the Board on formulation of regulations for wells drilled in coal mining areas.
3. Advise the Board regarding abandonment programs issued by the Board for wells drilled in certain coal mining areas, to be specified by the Director of Mines.

C. Overall Role of the Board

1. Specify drilling and completion methods to ensure that fluids from a well cannot enter a workable coal seam.
2. Witness or supervise casing, cementing and abandonment operations of wells drilled through workable coal seams.

D. Details of Board Function

1. A well is designated as being a "coal area" under guidelines agreed to by the Division. A special license provision makes section 516 of the Oil and Gas Conservation Regulations applicable.
2. Casing and abandonment programs must be approved by a senior member of the Board staff. All casing, cementing and abandonment operations are witnessed by designated Board staff.

3. In areas where the Director of Mines may have special information relative to proper procedures for well abandonment, his advice will be obtained before the Board issues its approval of an abandonment program.

II. Pipe Line Division

A. Areas of Concern to Both the Division and the Board

1. Oil, sour gas or salt water pollution occurring from operation of or breaks in any pipe line.

B. Overall Role of the Division

1. Require the design, location, operation and maintenance of all pipe lines so as to prevent pollution.

2. Take the necessary remedial action in the event of pollution occurring from pipe lines located outside field areas as designated by the Board.

3. Where pollution is detected in connection with inspections within Board designated field areas,

- (a) if pollution is continuing, take immediate preventative action and report to the Board for confirmatory and follow-up action, or
- (b) report findings to the Board for remedial action.

C. Overall Role of the Board

1. Take necessary remedial action in the event of pollution occurring from gathering lines inside Board designated field areas, to gas processing plants or within an oil sands processing plant area..

2. Where pollution is detected in connection with other inspections outside Board designated field areas,

- (a) if continuing, take immediate preventative action and report to the Division for confirmatory and follow-up action, or
- (b) report findings to the Division for remedial action.

3. Require notification of spills from gathering lines inside Board designated field areas, to gas processing plants or within an oil sands processing plant area.

4. Advise the Division with respect to special requirements which may be appropriate to prevent occurrences of pollution due to the operation of any pipe line.

D. Clarification of Responsibilities

At present there is overlap of responsibility for investigation and clean-up of oil spills from line breaks. Neither the Board nor the Division is receiving reports of all breaks. Since the Board is responsible for pollution control at wells, at batteries and at gas plants and the connecting lines are usually under the control of the operating company, it appears logical that the Board should be responsible for pollution control at gathering lines within field areas and lines extending to gas plants outside field areas. Pipe lines downstream from the battery or gas plant are usually operated by a pipe line company over which the Board has no relevant jurisdiction. The Pipe Line Division should have jurisdiction over pollution control on these systems.

E. Problem Areas

In all parts of the Province it would be beneficial to have some minimum standards for construction and testing of all lines carrying oil, gas or salt water. In pollution sensitive areas such as Zama Lake A-Z Area it is highly desirable that more stringent specifications be devised for all oil transmission lines. While the Board staff can conveniently handle the administration and surveillance of oil spills from flow line breaks, the minimum construction and testing standards should be determined by the Pipe

Line Division. The Board may be able to offer useful advice in certain areas or types of operation to ensure pollution is kept to a minimum.

III. Surface Reclamation Council

A. Areas of Concern to Both the Council and the Board

1. Maintenance, housekeeping and final clean-up of well sites and battery sites.

B. Overall Role of the Surface Reclamation Council

1. On termination of a mineral operation in surveyed areas inspect surface condition and if not satisfactory, order further conditioning and reclamation of the surface and issue a reclamation certificate.

2. Where pollution is detected in connection with other inspections

(a) if continuing, take immediate preventative action and notify the Board for confirmatory and follow-up action, or

(b) report findings to the Board for remedial action.

C. Overall Role of the Board

1. Require clean-up and maintenance of well and battery sites from commencement of drilling or producing operations until the well or battery is abandoned in accordance with a program issued by the Board.

2. Where appropriate specify equipment at well and battery sites to prevent pollution.

2701-1

October 29, 1971

L. A. Bellows, Assistant Manager
Field Operations

Oil Spill Clean-up
Interdepartmental Coordination

It is recommended that immediate steps be taken to clarify the roles of various government departments in the event of oil spills. We thought this had been done, but last Sunday's spill at Tony Creek proved that we were wrong.

As you know, my first information of the spill came from you, after you had received a call from Mr. Neil Barnes, Pollution Control Coordinator for the Department of Lands and Forests. I then phoned Mr. Barnes, who told me that he had been talking to Gordon Bullymore, Pipeline Division, and that it was not necessary for us to take any further part in the proceedings. I explained to him that the Pipeline Division would see to the line repair, but we had been given the responsibility of supervising the clean up in these cases. I am sure I did not convince him but he said he would be in touch with me as information was received from the scene of the spill. I told him one of our people would be going and offered him a ride if he wanted one. I also asked him if Forestry might be able to get a helicopter because the leak was reported to be in very rough country.

As the day progressed I talked to Gordon Bullymore several times and phoned Mr. Barnes a couple of times to tell him what I had heard. Finally, at about 11:00 p.m. that night it was agreed that Jim Wurzer, a Pipeline Inspector, and Mr. Barnes would meet at the Whitecourt Forestry Office at 8:00 a.m. Monday and would take a helicopter to the site of the spill. I agreed that, if room were insufficient, Jim would not go on the first trip, but would meet the helicopter at Fox Creek and go to the spill later.

continued...

ERCB

L. A. Bellows

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October 29, 1971

On Monday morning Jim met Mr. Barnes, and Mr. Don Fregren, Whitecourt Area Forestry Superintendent. Mr. Fregren told him that Forestry staff had been to the area on Sunday, that the hunters who found the spill reported it to cover 300 acres and that it must be thousands of barrels.

Forestry personnel, it was later found, did not actually see the spill because of the strong gas odor at that time. It was decided that Jim would proceed to Fox Creek while the rest waited for Lloyd Bowhay, Pipelines Inspector, and then went to the spill by helicopter.

When Jim got to Fox Creek Forestry Office he discovered that the rest of the group were coming by car because weather conditions made flying impossible. He contacted Peace River Pipelines, operators of the leaking line, and was told that the spill was in a draw, which had been diked to contain the oil, and that the metering difference between the Simonette pump and the Fox Creek terminal indicated a spill of 136 barrels.

The forestry people arrived from Whitecourt and there was a discussion as to responsibility for the clean-up. Lloyd Bowhay had informed them at Whitecourt that he had nothing to do with it and had gone on in by car. Jim felt he was responsible for seeing that the clean up was done, with Forestry agreement should it be necessary to destroy trees. Mr. Barnes thought he was responsible, without need of any help from the Board. He had never heard of the "Roles Document" and Mr. Fregren had seen it but not read it.

The group then proceeded to the spill using Forestry vehicles because of the road conditions. They discovered that the spill was about half a mile long and 4' wide at its widest point, for a total of less than half an acre. Jim gave Mr. McCullough, Peace River Pipeline, permission to burn the oil because he felt that any salvage was impossible. Forestry also approved the burn. Apparently the discussion of responsibility continued most of the day and the Forestry people added the thought that they were not going to continue to provide men and transportation to help other departments, unless they were paid.

I think this clearly shows the need for consultation with the Forestry Department at a policy making level, to see if we can get back to the agreement that we thought we had reached some time ago. Perhaps the problem just exists with Mr. Barnes and Whitecourt but they certainly need educating.

continued...

ERCB

L. A. Bellows

- 3 -

October 29, 1971

To further confuse the interdepartmental picture, two men from the Department of the Environment were sent to the scene by helicopter. In view of flying conditions they became lost and did not reach the spill until Tuesday. Their contribution seems to have been that they kept all the others waiting while they were missing, in case a search should be required. It would seem that if they are going to be involved in these things their efforts should be coordinated with ours.

D. Larbalestier

D. Larbalestier
Area Engineer

DL:pr
cc: V.E. Bohme

